

Set Name Query

side by side

DB=USPT; PLUR=NO; OP=OR

		<u>Hit Count</u>	<u>Set Name</u>
			result set
<u>L24</u>	(l3 near5 l22) and l23	5	<u>L24</u>
<u>L23</u>	l22 same (surface or extend)	7955	<u>L23</u>
<u>L22</u>	l11 near2 (oriented or orient or align or aligned or alignment or parallel)	23276	<u>L22</u>
<u>L21</u>	l20 not l14	74	<u>L21</u>
<u>L20</u>	L19 and l18	78	<u>L20</u>
<u>L19</u>	l11.ti,ab.	40961	<u>L19</u>
<u>L18</u>	L17 and l16	270	<u>L18</u>
<u>L17</u>	diameter or density or (aspect adj ratio)	1168500	<u>L17</u>
<u>L16</u>	l15 same surface	326	<u>L16</u>
<u>L15</u>	l11 near2 l3	1299	<u>L15</u>
<u>L14</u>	L13 and l5	45	<u>L14</u>
<u>L13</u>	l12 near5 l3	583	<u>L13</u>
<u>L12</u>	(grown or deposit or deposited or formed or surface) near6 l11	95903	<u>L12</u>
<u>L11</u>	whiskers or needles or projections or rods or protrusions or dendrites	381585	<u>L11</u>

DB=USPT; PLUR=YES; OP=OR

<u>L10</u>	l7 and l4	55	<u>L10</u>
<u>L9</u>	l5 and l6	7	<u>L9</u>
<u>L8</u>	l5 and l4	210	<u>L8</u>
<u>L7</u>	L6 and l2	55	<u>L7</u>
<u>L6</u>	l4.ti,ab.	206	<u>L6</u>
<u>L5</u>	l2.ti,ab.	182409	<u>L5</u>
<u>L4</u>	l3 near3 l1	3383	<u>L4</u>
<u>L3</u>	oxide or alumina or zirconia or titaniumdioxide or ("al.sub.2 o.sub.3") or zno or ("tio.sub.2")	505511	<u>L3</u>
<u>L2</u>	electronic or emission or emissive or capacitor or sensor	824727	<u>L2</u>
<u>L1</u>	whisker or needle or projection or rod or protrusion or dendrite	799939	<u>L1</u>

END OF SEARCH HISTORY



Houston

281.376.2000

Weighted Average

Rodney Powell
Microsoft MVP - Excel

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your excel project ?

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Microsoft Excel Resources

- weighted average
- dropdown list in cell
- standard deviation
- more...

Microsoft VBA Resources

- what are variables ?
- date diff - calc with qtrs
- more...
- dynamic named ranges
- finding real last cell
- more...

Business and Consulting

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- professional experience
- project request form

Engineering

- engineering analysis
- financial reporting
- sales forecasting
- automated billing
- engineering design
- clients - past & present

Miscellaneous Items

- gratuitous kudos
- add to favorites (Ctrl+D)
- e-mail contact

One of the most common inquiries submitted to me is about how to calculate weighted averages. Here is an example of a way you can use a weighted average in an Excel spreadsheet.

In this example, let's say you have a coffee company that carries several flavors at different prices and volume of sales. You need to know the average dollars per pound of coffee sold during a given period.

Let's see how our example looks in a spreadsheet.

	A	B	C	D
1	Product	Cost Per Pound	Pounds Sold	
2	Cafe Hawaii	\$ 6.50	100	
3	Diamond Head Espresso	\$ 7.95	80	
4	Kona Macadamia	\$ 14.50	60	
5	Maui Mocha Macadamia	\$ 7.50	70	
6	Vanilla Macadamia	\$ 6.95	90	
7				
8	AVERAGE	\$ 8.68		
9				
10	WEIGHTED AVERAGE	\$ 8.27		
11				

A straight average of prices across all flavors is simple. The average of **B2:B6** is \$8.68, but it wouldn't be accurate. Your company sells more of the less expensive products and sells less of the more costly coffee flavors. Therefore, we also need to account for the differences in sales volume for each of the product flavors.

The weighted average calculation looks like this:

$$\begin{array}{rccccc}
 \text{product A} & \text{price} & * & \text{volume} & = & \$ \\
 \text{product B} & \text{price} & * & \text{volume} & = & \$ \\
 \text{product C} & \text{price} & * & \text{volume} & = & \$ \\
 & & & & \hline & \\
 & & & & \text{sum volume} & \text{sum total } \$ \\
 & & & & & \\
 & & & & \text{sum total } \$ / \text{sum volume} &
 \end{array}$$

In cell **B10** is the following formula:

=SUMPRODUCT (B2:B6, C2:C6) /SUM (C2:C6)

Our formula multiplies the price of each product by its volume and calculates its sum for all the products. Then it divides that value by the sum of the volume for all products together.

As you see, this weighted average correctly indicates that the dollars per pound of coffee is \$8.27.

Special thanks to my good friend Robert Davidson of DFWSupport.com for helpful feedback to update this article.